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EXAMINER	
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 28

Application Number: 08/833,106
Filing Date: June 14, 2000
Appellant(s): SMALL

Mitchell White
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 4/4/97.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

The rejection of claims 2-4, 11-13, and 25 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

5,237,401	KOIKE et al.	8-1993
6,108,008	OHTA	8-2000

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

I. Claim 2-4, 11-13, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koike et al. in view Ohta (US 6,108,008).

Regarding claim **4**, Koike et al. discloses, in fig. 1, a color image reading apparatus in which an image is formed on a multi-chip image sensor (5), converted into an electrical signal, and applied to a head amplifier section (6), where it is digitized and amplified. The image signal is then sent to a signal processing section (7) where it is initially processed and stored in memory (8, col. 4, lines 37-45). The image signal data is then compressed by the CPU (11) and stored in memory (12, col. 5, lines 54-58). Koike et al. further discloses a memory (13) which is a nonvolatile memory (col. 6, lines 37-43) that stores color correcting coefficients calculated by CPU (11) which allows for compensation of color reproducing characteristics of output equipment such as a printer such as color space transformation (col. 2, lines 10-22) by using the CPU (11) and the stored correction coefficients stored in memory (13) to correct the image data (col. 6, lines 8-26). Since Koike et al. discloses compensating for output equipment such as a printer, a printer interface is inherent in the Koike et al. image reading apparatus. Koike et al. does not explicitly state that the image data is decompressed. However, it would have been obvious to decompress the image data in order to use the processed image

data. Koike et al. does not explicitly stated that memory (12) is a nonvolatile memory. However, it would have been obvious for memory (12) to be a nonvolatile memory so that the image data would not be lost due to power failure. Koike et al. does not disclose a first and second color transformation or a printer interface for receiving process color and printing process parameters from different printers having different predetermined processes. Ohta discloses a first color space transformation and compression transforming R, G, B values into L*a*b* values then further converting into L*'a*'b*' and then to R, G, B values which are displayed which infers decompression (col. 9, lines 1-21). Therefore, it would have been obvious to modify the Koike et al. image reading apparatus to include a first and second color space transformations as taught by Ohta to exactly reproduce the desired color and to achieve previewing on the monitor. Ohta further discloses an image processing system that may be used in an image input device such as a scanner (col. 3, lines 46-50), which is equivalent to a camera. The image processing of Ohta may be exhibited in a camera and the printer condition setting means acts an a printer interface for the Ohta color processing system by setting various output conditions of the printer (col. 4, lines 16-22). Ohta further discloses, in fig. 2, an image processing apparatus which includes a printer condition setting means (9) used to set various output conditions of the connected printer, or the parameters relating to the color process defined and contains printer setting means (8) for setting the kind of the connected printer and binarization method setting means (6) for setting the binarizing method to be employed in the printer (col. 4, lines 16-22). The output profile memory (7) stores the output profile representing the printer

characteristics (col. 4, lines 53-60). Therefore, it would have been obvious to modify the Koike et al. image reading apparatus to printer interface for receiving process color and printing process parameters from different printers having different predetermined processes to provide the convenience of interchangeable printers.

Regarding claim **2**, Koike et al. discloses, in fig. 1, a memory (13), which stores correction coefficients, used to correct image data (col. 5, lines 23-30).

Regarding claim **3**, Koike et al. performing error diffusion in response to a requisition from a printer and controlling a series of operations from the processing of the signals from the color original with the CCD sensor up to the transmitting of the signals through the error diffusing circuit (col. 1, lines 33-40).

Regarding claim **11**, Koike et al. discloses, in fig. 1, a color image reading apparatus in which an image is formed on a multi-chip image sensor (5), converted into an electrical signal, and applied to a head amplifier section (6), where it is digitized and amplified. The image signal is then sent to a signal processing section (7) where it is initially processed and stored in memory (8, col. 4, lines 37-45). The image signal data is then compressed by the CPU (11) and stored in memory (12, col. 5, lines 54-58). Koike et al. further discloses a memory (13) which is a nonvolatile memory (col. 6, lines 37-43) that stores color correcting coefficients calculated by CPU (11) which allows for compensation of color reproducing characteristics of output equipment such as a printer such as color space transformation (col. 2, lines 10-22) by using the CPU (11) and the stored correction coefficients stored in memory (13) to correct the image data (col. 6, lines 8-26). Since Koike et al. discloses compensating for output equipment such as a

printer, a printer interface is inherent in the Koike et al. image reading apparatus. Koike et al. does not explicitly state that the image data is decompressed. However, it would have been obvious to decompress the image data in order to use the processed image data. Koike et al. does not explicitly stated that memory (12) is a nonvolatile memory. However, it would have been obvious for memory (12) to be a nonvolatile memory so that the image data would not be lost due to power failure. Koike et al. does not disclose color filter interpolation, first and second color transformations, or a printer interface for receiving process color and printing process parameters from different printers having different predetermined processes. However, Ohta discloses color filter interpolation (col. 6, lines 55-61). Therefore, it would have been obvious to modify the Koike et al. image reading apparatus to include color filter interpolation as taught by Ohta to reduce the number of calculation required for the color measurements in the LUT. Ohta discloses a first color space transformation and compression transforming R, G, B values into L*a*b* values then further converting into L*'a*'b*' and then to R, G, B values which are displayed which infers decompression (col. 9, lines 1-21). Therefore, it would have been obvious to modify the Koike et al. image reading apparatus to include a first and second color space transformations as taught by Ohta to exactly reproduce the desired color and to achieve previewing on the monitor. Ohta further discloses an image processing system that may be used in an image input device such as a scanner (col. 3, lines 46-50), which is equivalent to a camera. The image processing of Ohta may be exhibited in a camera and the printer condition setting means acts an a printer interface for the Ohta color processing system by setting

various output conditions of the printer (col. 4, lines 16-22). Ohta further discloses, in fig. 2, an image processing apparatus which includes a printer condition setting means (9) used to set various output conditions of the connected printer, or the parameters relating to the color process defined and contains printer setting means (8) for setting the kind of the connected printer and binarization method setting means (6) for setting the binarizing method to be employed in the printer (col. 4, lines 16-22). The output profile memory (7) stores the output profile representing the printer characteristics (col. 4, lines 53-60). Therefore, it would have been obvious to modify the Koike et al. image reading apparatus to printer interface for receiving process color and printing process parameters from different printers having different predetermined processes to provide the convenience of interchangeable printers.

Regarding claim **12**, Koike et al. discloses, in fig. 1, a memory (13), which stores correction coefficients used to correct image data (col.5, lines 23-30).

Regarding claim **13**, Koike et al. performing error diffusion in response to a requisition from a printer and controlling a series of operations from the processing of the signals from the color original with the CCD sensor up to the transmitting of the signals through the error diffusing circuit (col. 1, lines 33-40).

Regarding claim **25**, Koike et al. discloses, in fig. 1, a color image reading apparatus in which an image is formed on a multi-chip image sensor (5), converted into an electrical signal, and applied to a head amplifier section (6), where it is digitized and amplified. The image signal is then sent to a signal processing section (7) where it is initially processed and stored in memory (8, col. 4, lines 37-45). The image signal data

is then compressed by the CPU (11) and stored in memory (12, col. 5, lines 54-58). Koike et al. further discloses a memory (13) which is a nonvolatile memory (col. 6, lines 37-43) that stores color correcting coefficients calculated by CPU (11) which allows for compensation of color reproducing characteristics of output equipment such as a printer such as color space transformation (col. 2, lines 10-22) by using the CPU (11) and the stored correction coefficients stored in memory (13) to correct the image data (col. 6, lines 8-26). Since Koike et al. discloses compensating for output equipment such as a printer, a printer interface is inherent in the Koike et al. image reading apparatus. Koike et al. does not explicitly state that the image data is decompressed. However, it would have been obvious to decompress the image data in order to use the processed image data. Koike et al. does not explicitly stated that memory (12) is a nonvolatile memory. However, it would have been obvious for memory (12) to be a nonvolatile memory so that the image data would not be lost due to power failure. Koike et al. does not disclose color filter interpolation, first and second color transformations, or a printer interface for receiving process color and printing process parameters from different printers having different predetermined processes. However, Ohta discloses color filter interpolation (col. 6, lines 55-61). Therefore, it would have been obvious to modify the Koike et al. image reading apparatus to include color filter interpolation as taught by Ohta to reduce the number of calculation required for the color measurements in the LUT. Ohta discloses a first color space transformation and compression transforming R, G, B values into L*a*b* values then further converting into L*'a*'b*' and then to R, G, B values which are displayed which infers decompression (col. 9, lines 1-21).

Therefore, it would have been obvious to modify the Koike et al. image reading apparatus to include a first and second color space transformations as taught by Ohta to exactly reproduce the desired color and to achieve previewing on the monitor. Ohta further discloses an image processing system that may be used in an image input device such as a scanner (col. 3, lines 46-50), which is equivalent to a camera. The image processing of Ohtä may be exhibited in a camera and the printer condition setting means acts an a printer interface for the Ohta color processing system by setting various output conditions of the printer (col. 4, lines 16-22). Ohta further discloses, in fig. 2, an image processing apparatus which includes a printer condition setting means (9) used to set various output conditions of the connected printer, or the parameters relating to the color process defined and contains printer setting means (8) for setting the kind of the connected printer and binarization method setting means (6) for setting the binarizing method to be employed in the printer (col. 4, lines 16-22). The output profile memory (7) stores the output profile representing the printer characteristics (col. 4, lines 53-60). Ohta discloses setting the printer profile according to the kind of printer so that color processing can be based on the parameters of the printer (col. 8, lines 4-11) infers connecting a second/different printer which would require second printing process parameters. Therefore, it would have been obvious to modify the Koike et al. image reading apparatus to printer interface for receiving process color and printing process parameters from different printers having different predetermined processes to provide the convenience of interchangeable printers.

(11) Response to Argument

Applicant argues that the use of two separate color space transformation steps within a digital camera or other image reading device, one prior to storage (to compensate for the camera characteristics) and one after storage, but prior to printing (to compensate for the printer characteristics), is not described or implied by any of the references. However, the Ohta reference (US 6,108,008), as will be seen in the art rejection below, discloses an image processing system that may be used with various image input devices different from a monitor such as a scanner (col. 3, lines 46-50), which is equivalent to a camera. The image input device dependent RGB values are color space transformed into XYZ color space (col. 5, lines 1-48) providing the first color space transformation compensating for the input device (camera) characteristics (RGB→ XYZ). The RGB, R'G'B', and XYZ values are inherently stored in order to be used in the subsequent processing steps. The XYZ values are color spaced transformed into C,M,Y,K values dependent of the output device or printer providing a second color space transformation compensating for printer characteristics (XYZ→ C,M,Y,K). Therefore, Ohta discloses the use of two separate color space transformation steps within a digital camera or other image reading device, one prior to storage (to compensate for the camera characteristics, RGB→ XYZ) and one after storage, but prior to printing (to compensate for the printer characteristics, XYZ→ C,M,Y,K).

Applicant argues that the Ohta reference (US 6,108,008) has a printer condition setting means, which is not part of the printer. Thus, information is received by the

camera from the printer condition setting means via a totally separate and different interface from the camera/printer interface that is used to download images from the camera printer. Although figure 2 shows printer (11) and printer condition setting means (9) as two separate items, the printer and the printer condition setting means may be considered one element since the printer condition setting means information is used to set the color space of the printer (col. 4, lines 15-22). Even if the printer (11) and printer condition setting means are two separate items, the printer and the printer condition setting means must establish some form of contact in order for the printer kind setting means (8) to provide information about the kind of specific connected printer (col. 4, lines 15-22). This contact, which provides printer kind information, may be considered the printer interface. Therefore, printer condition setting means interface may be considered the camera/printer interface.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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MLW
December 29, 2001

Conferees
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Andrew B. Christensen

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